CLAIMS

1. A method for detecting asymmetry in transient signals, the method comprising:

asymmetrically filtering (1-8) an input signal to detect pre-shoots and after-shoots of transient input signals; and

comparing (9-11) amounts of pre-shoots and after-shoots to furnish an output signal indicating whether pre-shoots or after-shoots pre-dominate.

2. A method according to claim 1, wherein the asymmetrically filtering (1-8) comprises:

filtering (1) the input signals utilizing a first set of filter coefficients resulting in an impulse response arranged to provide a first output representing only the pre-shoots present in the input transient signals; and

filtering (2) the input signals utilizing a second set of filter coefficients resulting in an impulse response arranged to provide a second output representing only the after-shoots present in the input transient signals.

3. A method according to claim 2, wherein said first set of filter coefficients are anti-symmetrical to said second set of filter coefficients.

4. A method according to claim 2, wherein the asymmetrically filtering further comprises calculating (3, 4) absolute values of the first and second outputs to give first and second absolute values respectively.

5. A method according to claim 4, wherein the asymmetrically filtering further comprises:

summing (5) the first absolute values over a pre-determined time interval to obtain first summed values; and

summing (6) the second absolute values over the pre-determined time interval to obtain second summed values.

6. A method according to claim 5, wherein said pre-determined time interval comprises an interval between field pulses of a video signal

7. A method according to claim 1, wherein the output signal of the comparing step (9-11) is averaged (13) over a plurality of field periods to reduce field-to-field variation effects.

8. A method according to any of the preceding claims, wherein the output signal provides a value measure of the relative amounts of pre-shoots and after-shoots present.

9. An apparatus for detecting asymmetry in transient signals of an input signal, the apparatus comprising:

a pre-shoot filter (1) for receiving an input signal and asymmetrically filtering it utilizing a first set of filter coefficients to provide a first output in which substantially only pre-shoots of input transient signals are present;

an after-shoot filter (2) for receiving the input signal and asymmetrically filtering it utilizing a second set of filter coefficients to provide a second output in which substantially only after-shoots of input transient signals are present; and

summing and comparison means (3 to 11) for summing the first outputs over a predetermined time interval, summing the second outputs over the predetermined time interval and comparing first and second summed outputs to give an output signal indicating whether pre-shoots or after-shoots predominate over the predetermined time interval.

10. A peaking filter (14-19; 23-26), comprising:

means for receiving a detection signal indicating whether pre-shoots or after-shoots are found to systematically predominate in transients of an input signal; and

means for varying filter coefficients of the peaking filter in accordance with the detection signal to provide a corrected output in which transients are substantially symmetrical.

11. A peaking circuit according to claim 11, wherein said peaking filter (14, 15, 17) for performing peaking correction on the input signal comprises an FIR filter comprising:

a delay line (14) for receiving the input signal and having a plurality of outputs ($14_0 \ldots 14_4$);

a plurality of multipliers ($15_0 \ldots 15_4$) each having a first input terminal connected to a respective individual output ($14_0 \ldots 14_4$) of the delay line (14) representing a multiplicand and each having a second input terminal for receiving a respective filter coefficient representing a multiplier and each having an output terminal for outputting a respective product; and

a summing circuit (17) for receiving the respective products from the multipliers ($15_0 \ldots 15_4$), summing them and providing a summed output, wherein said filter coefficients are variable such that if neither pre-shoots nor after-shoots are found to predominate in transients of the input signal then said coefficients are determined purely based upon a desired amount of peaking required and an impulse response of the filter will be symmetrical, whereas if pre-shoots are found to predominate then said coefficients are varied so as to provide an asymmetrical impulse response in which additional after-shoots are produced, and if after-shoots are found to predominate then said coefficients are varied so as to provide an asymmetrical impulse response in which additional pre-shoots are produced.

12. A method of correcting systematic transient asymmetry distortion in an input signal, the method comprising:

determining whether pre-shoots or after-shoots predominate in transients of the input signal; and

correcting the input signal to render it substantially symmetrical.

13. A method according to claim 12, wherein rendering the input signal substantially symmetrical comprises if pre-shoots are found to predominate then adding after-shoots and if after-shoots are found to predominate then adding pre-shoots.

14. A method according to claim 13, wherein said method is implemented in a peaking filter by selectively varying filter coefficients of the peaking filter so as to cause the production of after-shoots in the case where pre-shoots predominate, to cause the production of pre-shoots where after-shoots predominate and to give a symmetrical peaking correction in the case where neither pre-shoots nor after-shoots predominate.

15. A method according to claim 12, wherein, if pre-shoots are found to predominate then high frequency components of the input signal are shifted in time in a first direction with respect to low frequency components of the input signal, and if after-shoots are found to predominate then high frequency components of the input signal are shifted in a second direction in time with respect to the low frequency components, said second direction being opposite to said first direction.

16. An method according to claim 14, wherein an output from the peaking filter is fed back to the input of the determining step.

17. A display apparatus, comprising:

means (D, C, F) for carrying out the method of claim 12 to obtain a corrected signal; and

means (DP) for displaying the corrected signal.